

## REMARKS

In Paragraph 15 of the Office Action, restriction is required to one of the following inventions under 35 U.S.C. §121:

- I. Claims 1-7, 10-15, 19-26 and 29, drawn to a process for antimony-free polyester, classified in Class 528, subclass 272.
- II. Claims 8, 9, 16-18, 27 and 28, drawn to a process for a polyester derived from a hydroxycarboxylic acid, classified in Class 528, subclass 361.

The inventions are alleged to be distinct because Inventions I and II are related as combination and subcombination. In the instant case, the Examiner contends that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) the subcombination has separate utility such as in making polyester fibers or polyurethanes.

Applicants confirm that a provisional election was made with traverse to prosecute the invention of Group I. However, Applicants submit that the restriction requirement is improper. For the following reasons, the inventions of Group I and II are related and do not represent separate and distinct inventions.

Independent claim 1, and the claims dependent thereon, including the claims of Group II, are directed to a process for the preparation of antimony-free polyesters by esterification of an aromatic dicarboxylic acid or transesterification of a lower alkyl ester of an aromatic dicarboxylic acid with an aliphatic diol and subsequent

polycondensation. Dependent claim 27 recites that the process of claim 1 is further characterized by the esterification of an aromatic dicarboxylic acid and a hydroxycarboxylic acid or transesterification of a lower alkyl ester of an aromatic dicarboxylic acid and a hydroxycarboxylic acid with an aliphatic diol. According to claim 8, which is dependent on claim 27, the amount of hydroxycarboxylic acid is 0-20 mol %. Therefore, the polyester of the invention of Group II is never solely derived from a hydroxycarboxylic acid. Consequently, Applicants view the claims of Group II as directed to an embodiment of the same broad invention to which the claims of Group I are directed.

There is nothing that supports the Examiner's position that the invention of Group II, as claims 8, 9, 16-18, 27 and 28 are written, has a separate utility for making polyurethanes. The claims of Group II are dependent upon the claims of Group I and are likewise directed to a process for antimony-free polyester. Moreover, as previously stated, the polyester of the invention of Group II is not solely derived from a hydroxycarboxylic acid.

Furthermore, it would be more efficient for both the U.S.P.T.O. and the Applicants if all 29 claims were considered in this application rather than two separate applications. The prosecution of two applications would lead to an unnecessary and unfair increase in Applicants' costs and increase the amount of time the Patent Office and the Applicants must spend on prosecution of the same invention.

For all of the foregoing reasons, Applicants submit that the restriction requirement is improper and does not satisfy the conditions of M.P.E.P. §806.05(c). The inventions of Groups I and II are both directed to a process for antimony-free polyester, classified in Class 528, subclass 272. Therefore, the inventions of Group I and II are related and do not represent separate and distinct inventions. Applicants respectfully request withdrawal of the restriction requirement and the examination of claims 1-29 in one application.

In Paragraph 21 of the Office Action, claims 6 and 8 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

In view of the previous Office Action (Paper No. 4), mailed January 22, 1996, it appears that the Examiner intended to repeat the rejection of claims 1 and 8, not claims 6 and 8. Claims 1 and 8 have been amended in accordance with the Examiner's suggestion. Amended claims 1 and 8 now recite "transesterification of a lower alkyl ester of an aromatic dicarboxylic acid..."

Withdrawal of the rejection of claims 1 and 8 under 35 U.S.C. §112, second paragraph, is requested.

In Paragraph 22 of the Office Action, claims 1-7, 10-15, 19-26 and 29 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,208,527 to Horlbeck et al. and U.S. Patent No. 4,131,601 to Hashimoto et al.

The claimed invention and the cited prior art are directed to processes for the preparation of polyesters in the presence of catalysts and an inhibitor. However, as demonstrated by the following disclosures, the cited prior art teaches that the combination of catalysts, including the inhibitor, influences the essential characteristics of the reaction and the polyester product:

...the commonly used catalysts promote not only the reaction by which the polyester is built up but also degradation reactions during transesterification and polycondensation. As a result, they effectively determine essential characteristics of the polyester, such as color, melting point and stability to heat (Horlbeck et al, col. 1, lines 40-46).

and

The rate of polycondensation and the qualities of the resulting polyester are greatly influenced by the kind(s) of catalyst(s) used. (Hashimoto et al. col. 1, lines 31-33).

Thus, relying upon the cited art, it is Applicants' position that the combination of catalysts characterizes the process for the preparation of polyesters and polyester product itself. Accordingly, as demonstrated by the following Table, Applicants submit that the claimed process and polyester product are different from the prior art because the combination of catalysts which defines Applicants' process is different from the prior art:

STAGE	CLAIMED INVENTION	HORLBECK	HASHIMOTO
I. ESTERIFICATION OR TRANSESTERIFICATION	catalyst = Mn	co-catalyst = Mn co-catalyst = Co (col. 3, lines 3-10)	catalyst = Mn catalyst = Co (col. 3, lines 19-34)
II. POLYCONDENSATION	complexing agent = P color agent = Co catalyst = Ti	inhibitor = P co-catalyst = Ge co-catalyst = Ti (col 3, lines 10-31)	catalyst = preformed Ti compound (col. 2, lines 20-27)  stabilizer = P (Examples)

With specific regard to Horlbeck et al, Co is added as a catalyst, together with Mn, during the esterification or transesterification stage (See. Table 1). In accordance with the claimed invention, Co is optionally added during the subsequent polycondensation stage to improve the color shade of the polyester product (See, claim 1 and specification, page 5, lines 16-19). As such, Co does not contribute to the inventive reaction. The polycondensation catalyst of Horlbeck et al. is a Ge/Ti co-catalyst (See, Table 1). In contrast, the only polycondensation catalyst of the claimed invention is a Ti compound, e.g., potassium titanyloxalate (See, claim 29).

Thus, each and every element of the claimed invention is not found within the four corners of the reference to Horlbeck et al. Accordingly, the rejection of claims 1-7, 10-15, 19-26 and 29 under 35 U.S.C. §102(b) as being anticipated by Horlbeck et al. is improper. Withdrawal of the rejection is respectfully requested.

With specific regard to Hashimoto et al, Co is added as a catalyst during esterification or transesterification, whereas in the claimed invention, Co is optionally added to improve the color shade of the polyester product when esterification or transesterification has ended (See, claim 1 and specification at page 5, lines 16-19). As such, Co does not contribute to the reaction. The polycondensation catalyst of Hashimoto et al. is a preformed titanate compound obtained by reacting a titanic acid ester of the formula  $Ti(OR)_4$  with an aromatic tricarboxylic acid to form an anhydride (col. 36-41). In contrast, the polycondensation catalyst of the claimed invention is a Ti-compound, e.g., potassium titanyloxalate, that is not pre-reacted with any of the reactants (See, claim 29). Moreover, Hashimoto et al. teach that half or a lesser amount of the preformed titanate catalyst may be replaced by an antimony compound (col. 4, lines 54-62). This teaching is in direct contrast to the claimed invention which is directed to a process for antimony-free polyesters. Therefore, the Examiner errs when he states on page 5 of the Office Action that the prior art does not "disclose the use of antimony".

Thus, each and every element of the claimed invention is not found within the four corners of the reference to Hashimoto et al. Accordingly, the rejection of claims 1-7, 10-15, 19-26 and 29 under 35 U.S.C. §102(b) as being anticipated by Hashimoto et al. is improper. Withdrawal of the rejection is respectfully requested.

At page 5 of the Office Action, the Examiner states that the prior art discloses the use of P and Co and that the art does not disclose the use of antimony. Hashimoto et

al. teach the use of antimony as a polycondensation catalyst. Moreover, the prior art teaches that the catalysts which are used in the different stages for the preparation of polyesters greatly influence the rate of polycondensation and the qualities of the polyester product. Horlbeck et al. and Hashimoto et al. teach the use of Co as a co-catalyst with Mn or Ge during esterification or transesterification. In contrast, Applicants teach that Co is optionally added during polycondensation to improve the color shade of the polyester product (See, claim 1 and specification at page 5, lines 16-19). For all of the preceding reasons, Applicants submit that the process and polyester product of the claimed invention are different from and are not anticipated by the cited prior art.

**CONCLUSION**

The Amendment and Remarks are full responsive to the outstanding Office Action. Claims 1-29 are in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

John M Genova

John M. Genova, Esq.  
Attorney for Applicants  
Registration No. 32,224

HOECHST CELANESE CORPORATION  
86 Morris Avenue  
Summit, New Jersey 07901  
(908) 522-7531